



What explains the imbalance use of social media across different countries? A cross country analysis of presence of Twitter users tweeting scholarly publications

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Aim:

Particularly:

- **Twitter activity** : the extent to which Twitter users from different countries are tweeting scholarly publications (geographic distribution of Twitter users)
- **Twitter presence** : the extent to which publications affiliated to authors from different countries are tweeted (geographic distribution of countries of authors of tweeted publications)
- **Barriers**: Identifying potential reasons for any differences in the scholarly use of Twitter across different countries

Data:

- A dataset of ~6 millions (5,989,022) Web of Science publications with DOIs from the years 2012 to 2015
- The publications were matched based on their DOIs with the Altmetric.com database obtained in Jun 2016
- Information on the Twitter accounts (Twitter users) mentioning these publications has been extracted: including self-assigned geo-locations, and number of tweets per publications aggregated at the country level
- Country of Author affiliation of tweeted papers retrieved from CWTS in-house WoS database
- Some indicators have been calculated:

Proportion of twitter users of a country: $\frac{n.\text{distinct Twitter users from the country}}{n.\text{of total Twitter users of all countries}}$

Proportion of twitted papers of a country: $\frac{n.\text{of distinct papers tweeted of a country}}{\text{total distinct papers tweeted}}$

Proportion of tweets of a country: $\frac{\text{tweets of a country}}{\text{total tweets}}$

Country of the Twitter users vs. country of the authors of tweeted publications



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📍 Leiden, The Netherlands


📅 Joined June 2012

Country of authors of tweeted paper



Zohreh Zahedi @ZohrehZahedi · Jul 3

We just published 'Mendeley readership as a filtering tool to identify highly cited publications' in JASIST:



Mendeley readership as a filtering tool to identify ...

This study presents a large-scale analysis of the distribution and presence of Mendeley readership scores over time and across disciplines. We study w... onlinelibrary.wiley.com

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Country of Twitter user

Research questions:

RQ: Which countries are actively tweeting WoS publications?

RQ: To what extent WoS publications affiliated to authors from different countries are tweeted by users?

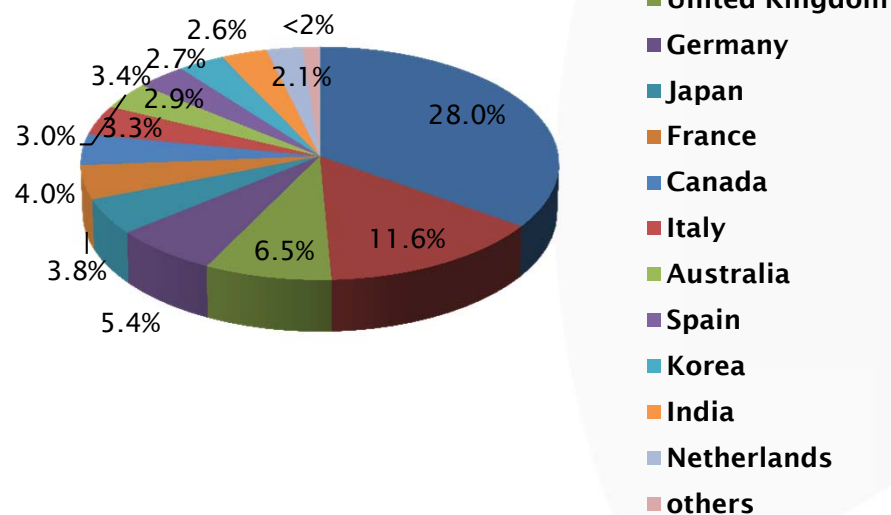
RQ: Whether Twitter users tweet publications from their home countries or others?

RQ: What explains the imbalance Twitter activity around publications from some countries?

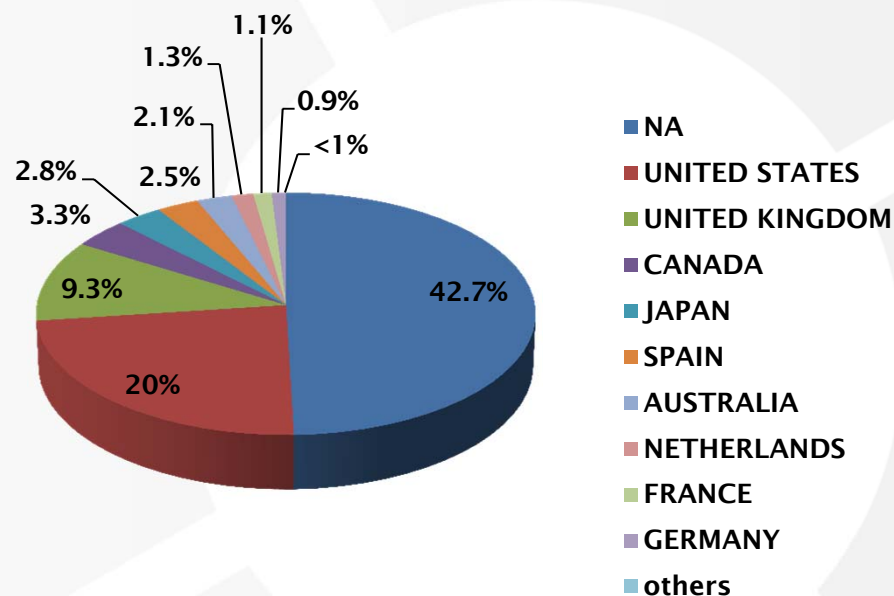
Geographic distribution of WoS authors and Twitter users

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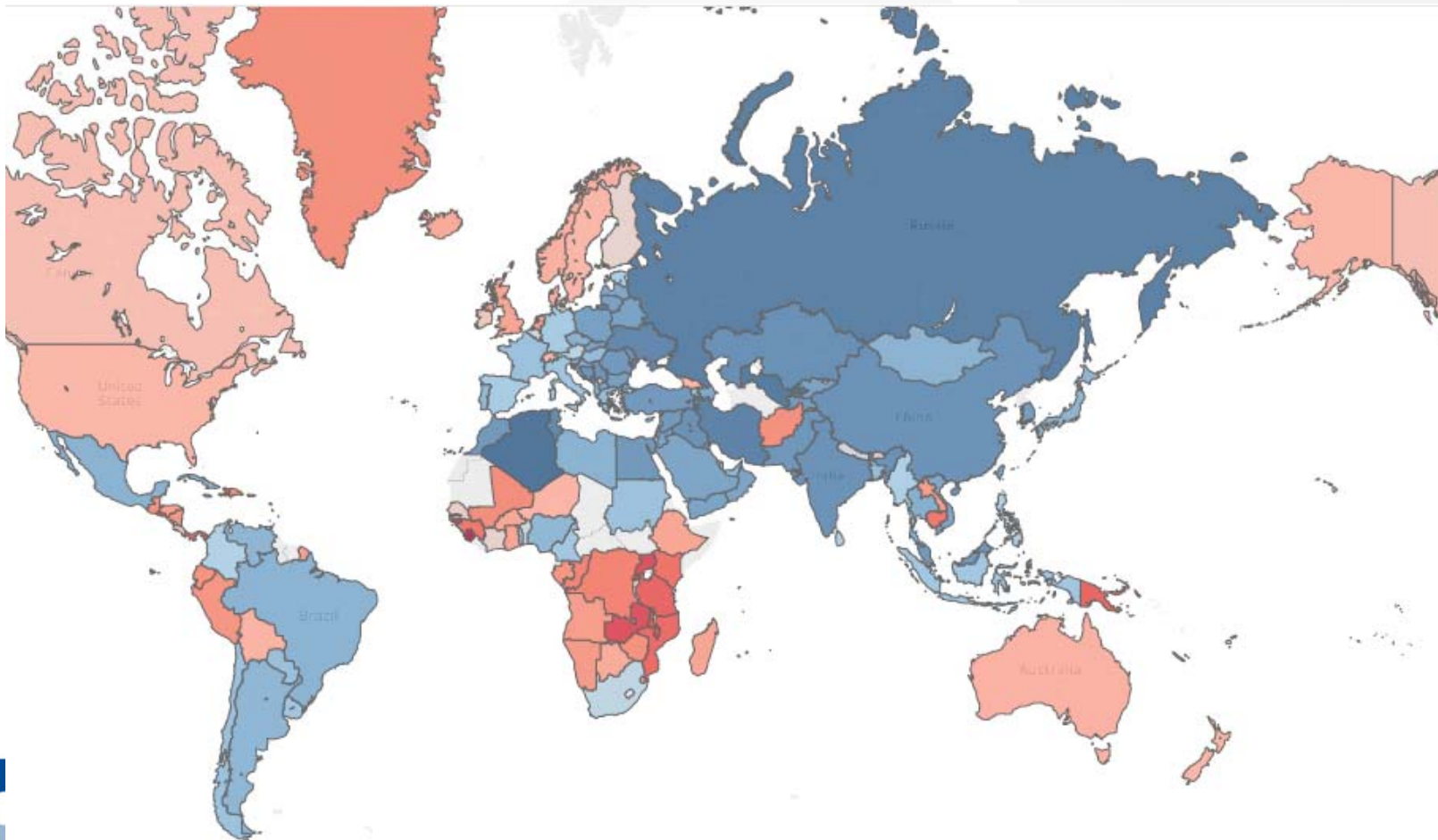
country affiliation of authors of the 2012-2015 WoS publications with DOI



Distribution of the countries of the Twitter users captured by Altmetric.com

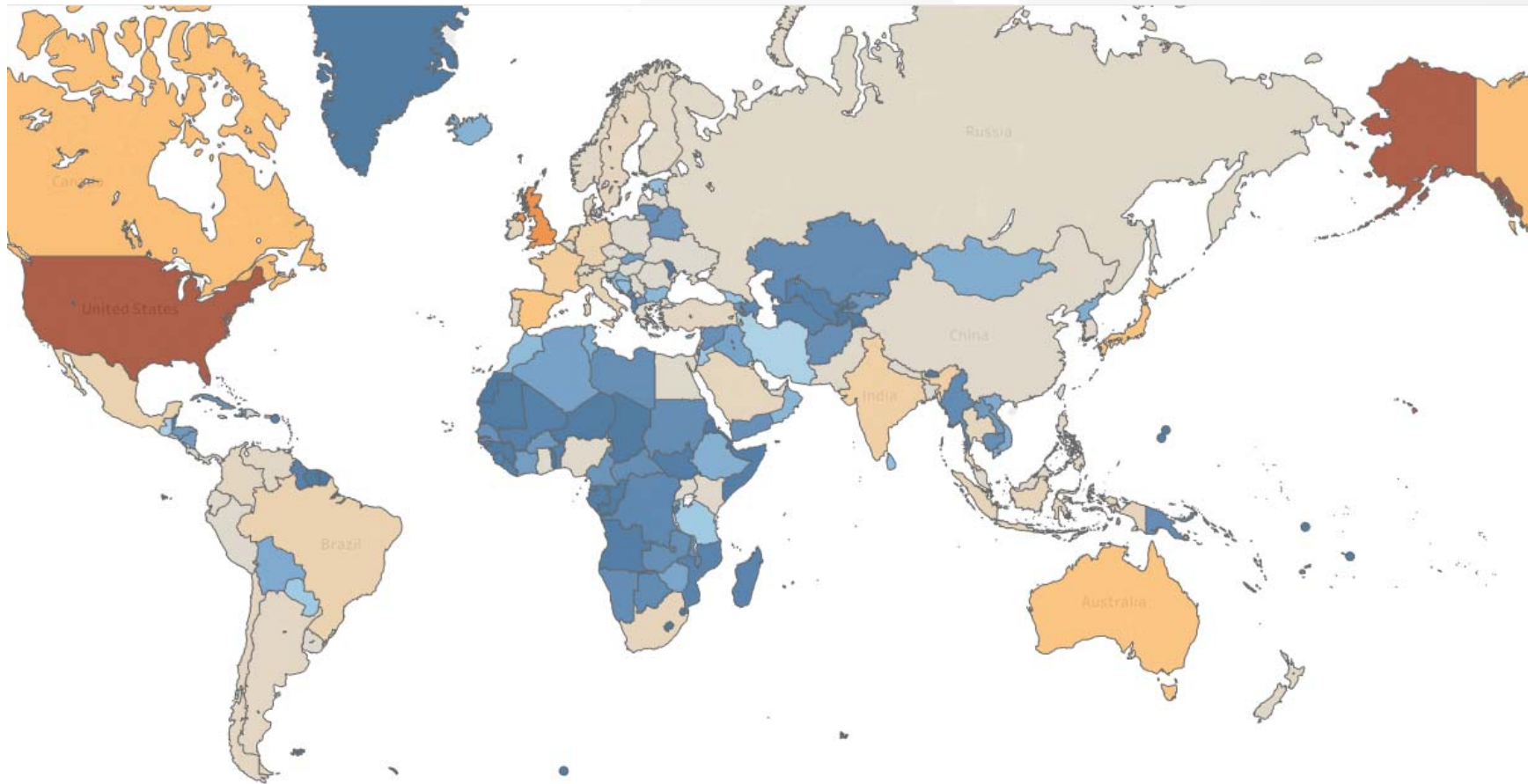


country of authors of tweeted publications



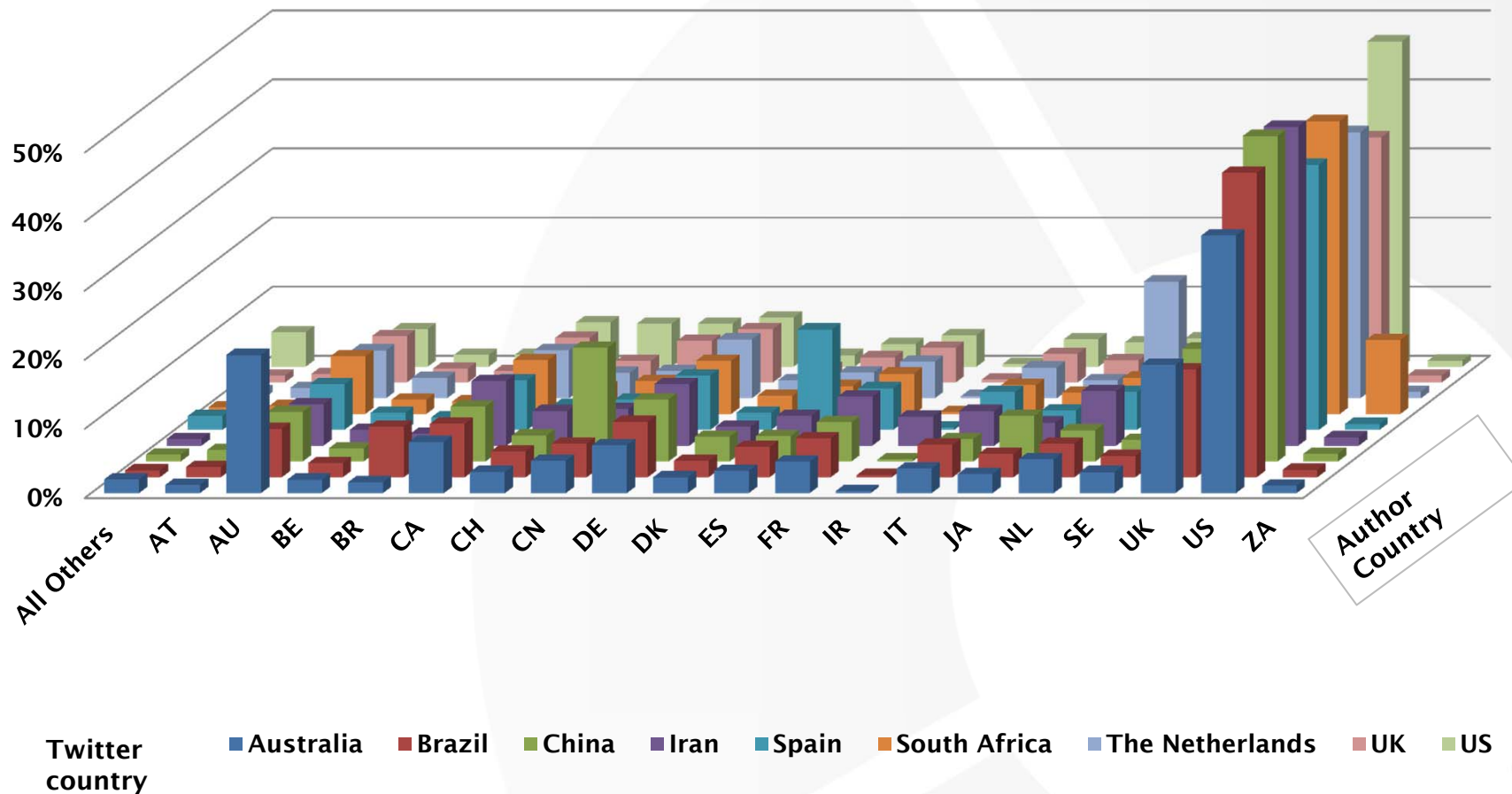
Costas et al. (2017)

Country of Twitter users



Whether Twitter users tweet publications from their home countries or others?

Author country of affiliation (vertical line) vs. Twitter user country (horizontal line)



Share of tweeting own vs. other country's publications

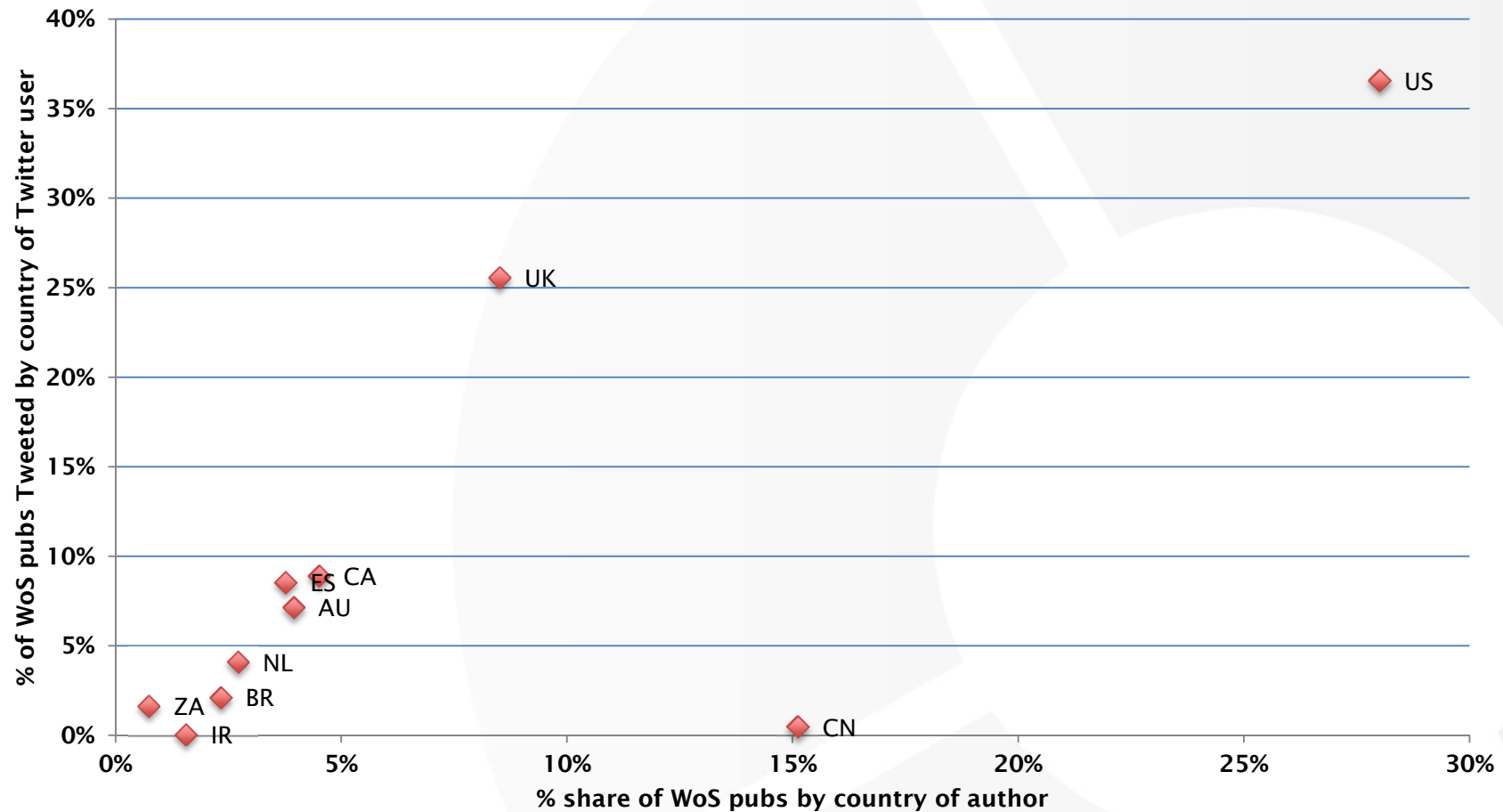
- In general, papers affiliated by authors from the **US** are the most tweeted papers by the users from all other countries.
- **American Twitter users** have the first place in tweeting their own papers (47%), followed by papers affiliated to the UK (12%), Germany (7%), Canada (6%), and China (6%).
- **British, Canadian, Australian, and Chinese tweeters** have the second place in tweeting their own publications after US publications.
- **Dutch, Spanish, and South African Twitter users** usually are the third group of the most tweeted publications from their own nationals.
- **Brazilian users** tweet their own papers in the fifth place after those by US (44%), UK (16%), Germany (8%) and Canada (8%), and their own country (BR,7%).
- the most tweeted papers by **Iranian tweeters** are from the US (46%), the UK (17%), Canada (9%) and Germany (9%). Iranian tweeters tweet only 4% of papers from their own country.

What explains the imbalance Twitter activity around publications from some countries?

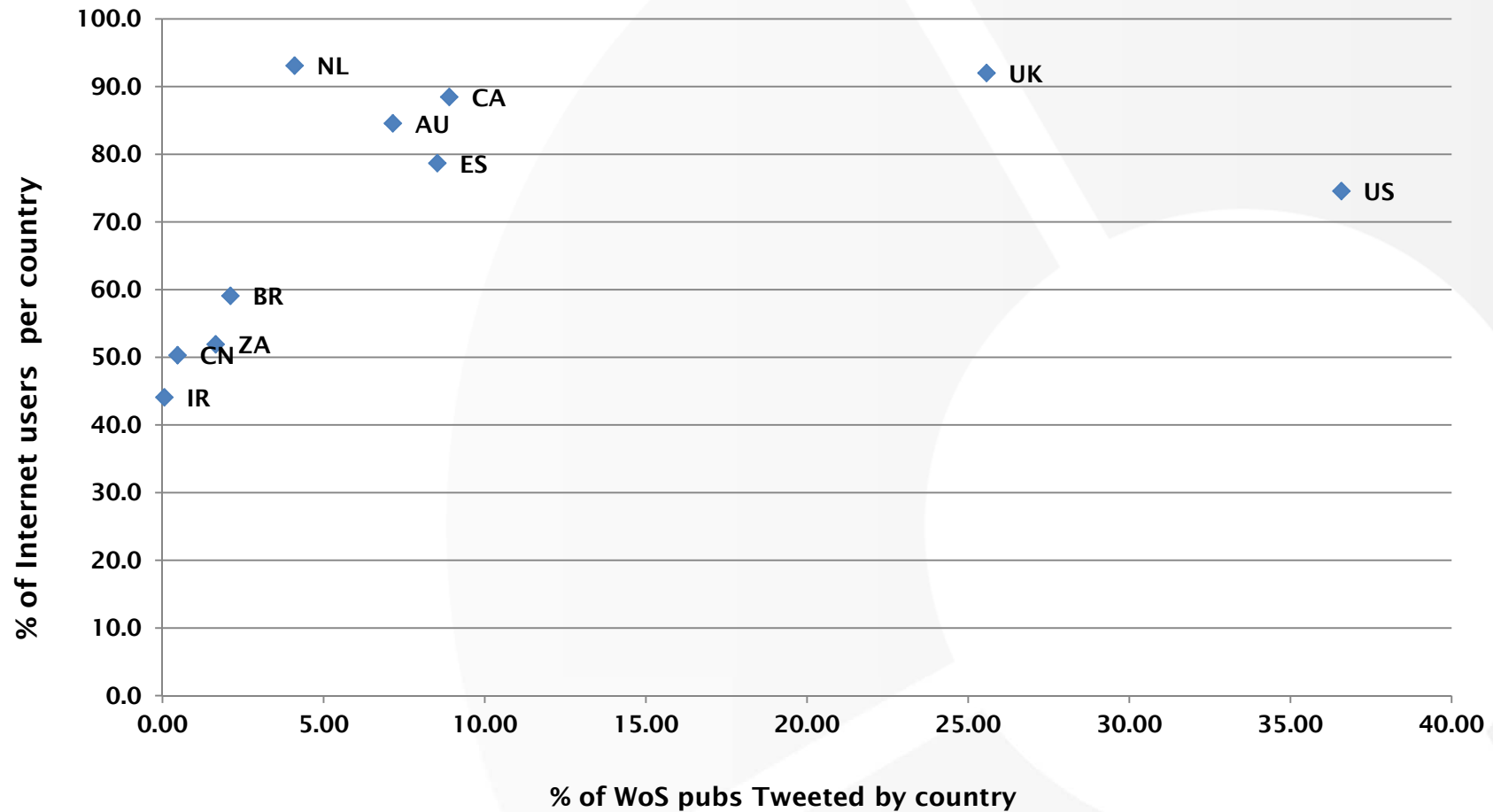
Why some countries are among the main users of social media platforms (Twitter)?

Potential reasons for underrepresentation of countries in Twitter

Country's output size and Twitter activity

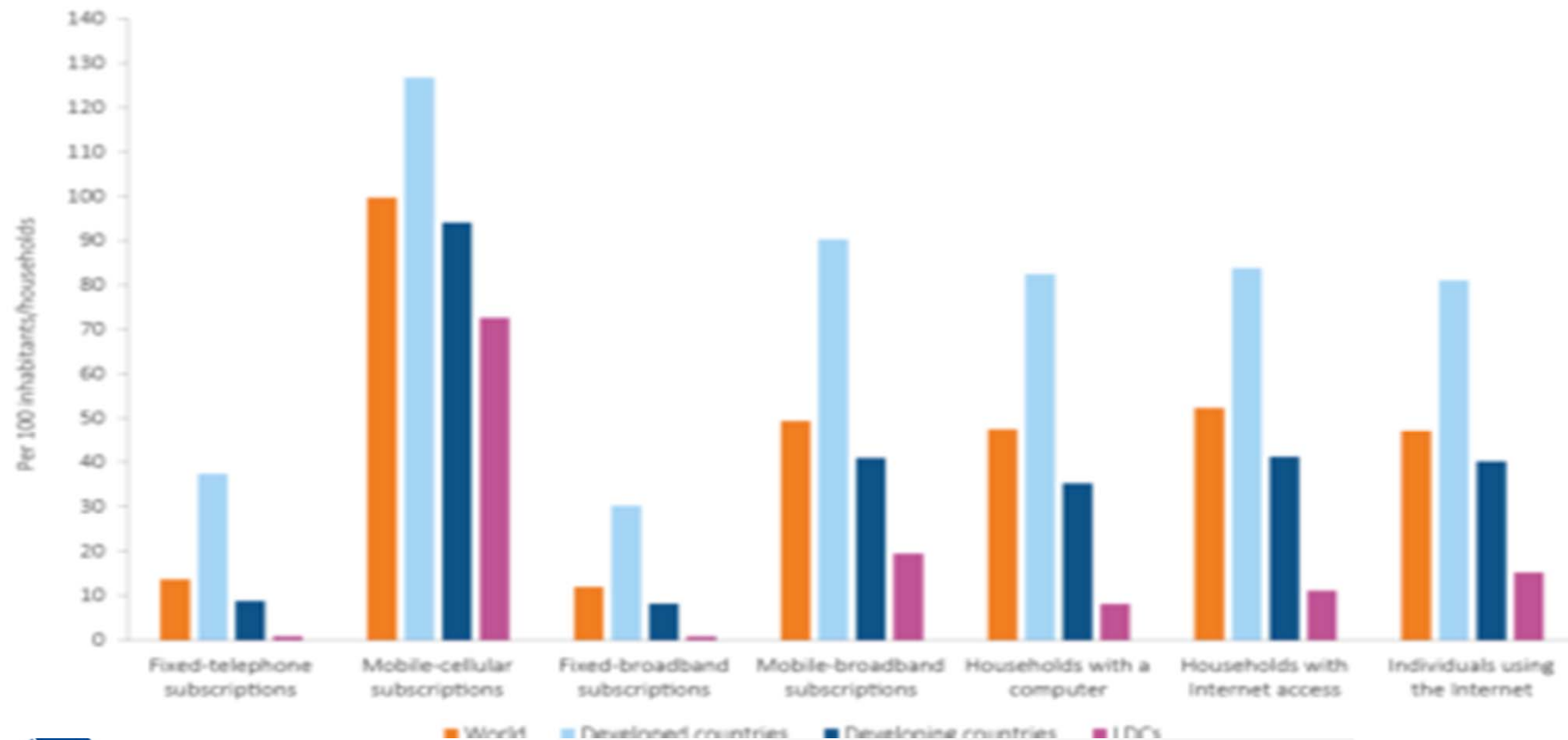


Country's access to internet and Twitter activity

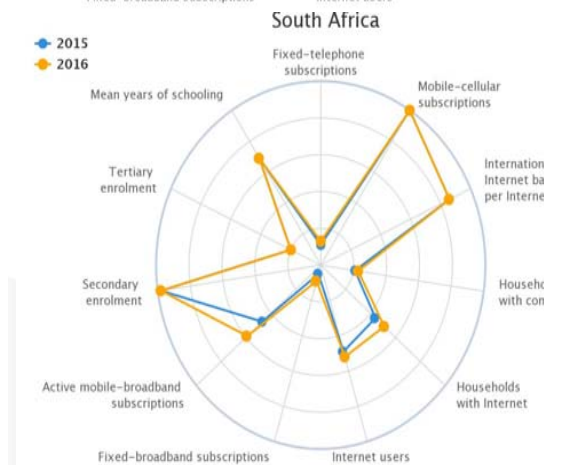
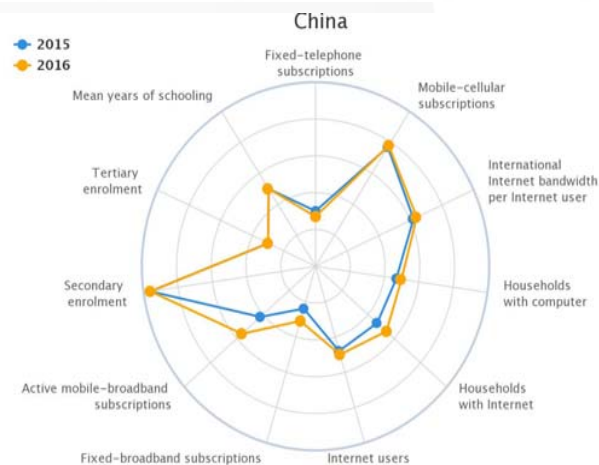
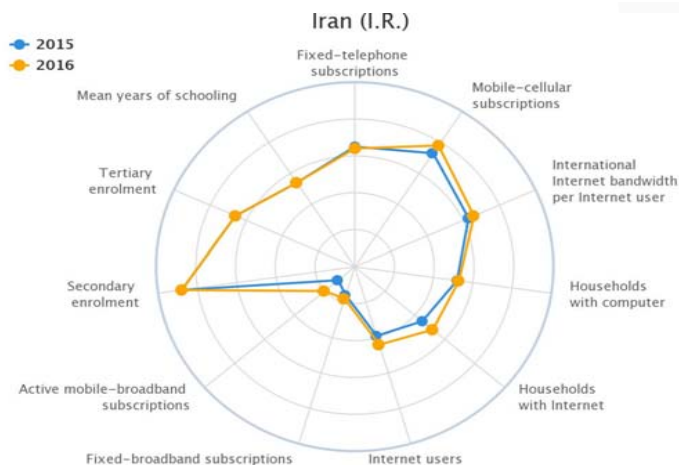
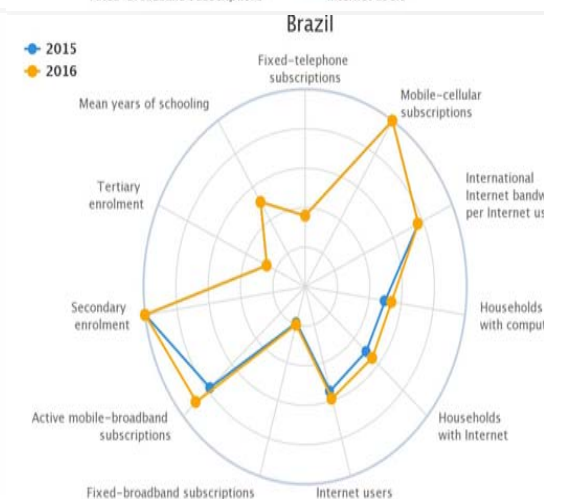
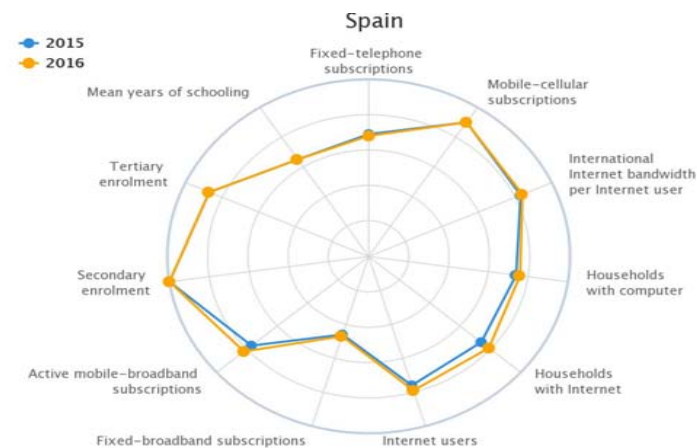
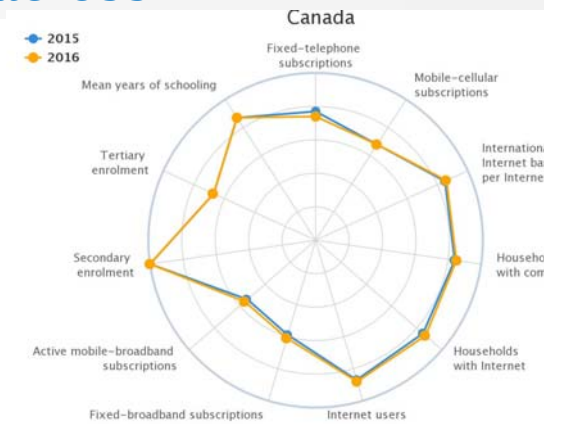
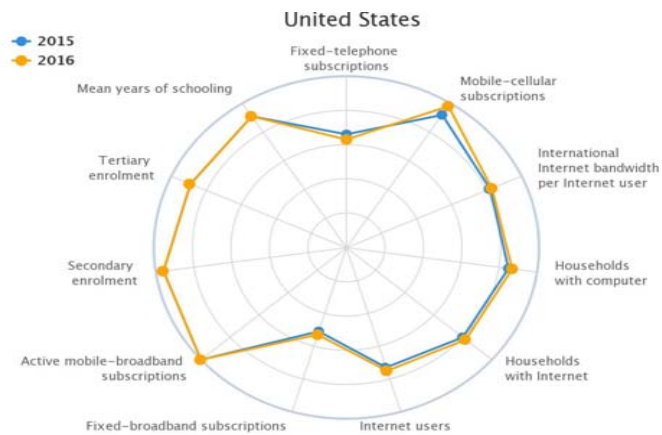


ICT penetration across countries

Chart 1.3: ICT penetration levels, 2016*, by level of development

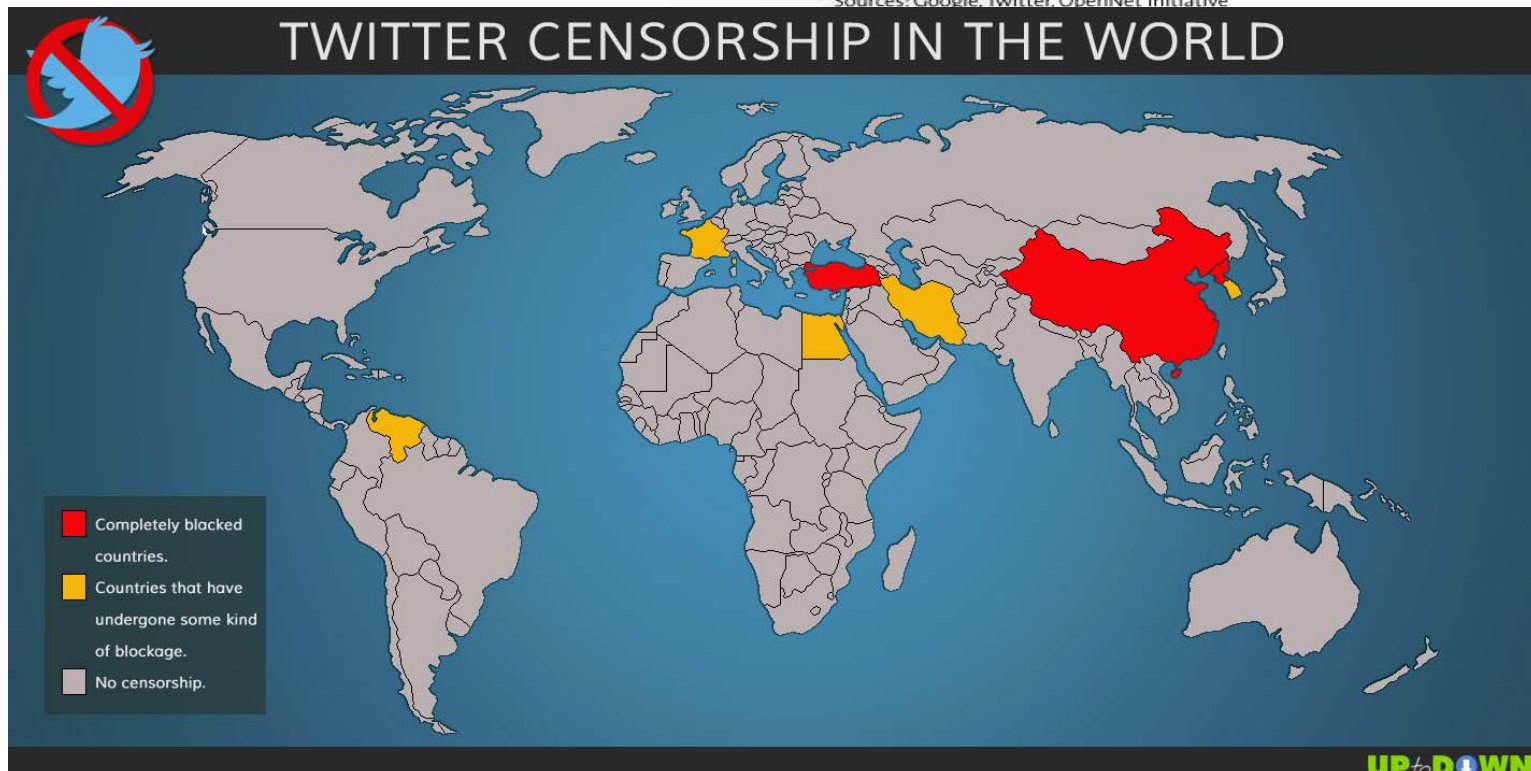
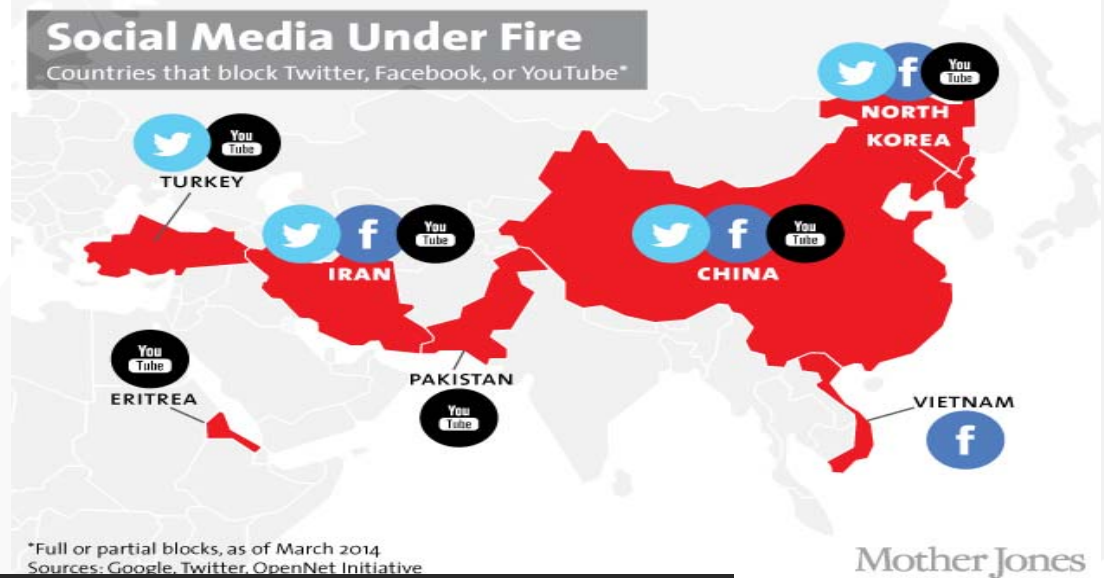


ICT infrastructure, use and access across countries



Social Media filters

- restrictive policies on access to social media platforms across
- censorship, controlling online environment
- encouraging the use of local tools



Other factors:

- Degree of technology orientation by a country: enhanced information and communication technology, ICT infrastructure, and technological capabilities
- Uneven penetration and use of internet and social media platforms
- The degree to which research are trackable and findable by altmetrics aggregators (identifiers availability)
- Underrepresentation of developing world research in bibliometrics databases (coverage and language biases)
- Country's access policy to local vs. international use of specific platforms
- different cultural, technological, economical and political factors across countries

some remarks:

- “altmetrics favor developed countries and hence potential of altmetrics for serving the scholars from developing countries (the so-called ‘alternative scholars’) is essentially neglected”(Alperin, 2013).
- “It seems that the benefits of social media platforms, which have the potential to bridge the digital divide between developed and developing countries, are far from being obtained”(Zahedi, 2016)

Open question:

Are we experiencing altmetrics divide?

Could we start to talk about an 'altmetric divide'? On the imbalance in the access and use of social media platforms across countries? (Zahedi, 2016)

How visible are the research of different countries on WoS and Twitter? an analysis of global vs. local reach of WoS publications on Twitter (Zahedi and Costas, 2017)

Acknowledgment



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Thanks for your attention!



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